

APPENDIX A

1. (Original) A folding knife, comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

a longitudinally extending plunger carried in said blade cavity having a first end and second end opposite said first end;

a pivotal connector pivotally connected to said handle for pivotally connecting said plunger to said handle, said first end of said plunger being longitudinally slidably carried by said pivotal connector for longitudinal movement of said plunger relative to said pivotal connector as said blade moves between said retracted and extended positions; and

said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

2. (Original) A folding knife as defined in claim 1, wherein said blade includes said first end of said blade having an extension projecting outwardly from said handle when said blade is in said retracted position; said extension defining an extreme edge portion with a plurality of ridges thereon for contact by a user when moving the blade from said retracted position to said extended position.

3. (Original) A folding knife as defined in claim 2, wherein said plurality of ridges are generally saw-tooth-shaped and are generally angled in a direction substantially opposite to the direction said second end of said blade moves when moving from said retracted position to said extended position.

4. (Original) A knife as set forth in claim 1, further comprising a safety member pivotally connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into said blade cavity and in the path of movement of said first end of the plunger when said safety member is in said locking position for contacting and restraining movement of said first end of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

5. (Original) A knife as defined in claim 1, further comprising said handle defining a first side and a second side opposite said first side and a belt clip connected to said handle adjacent one of said first and second sides of said handle.

6. (Original) A knife as defined in claim 1, wherein said pivotal connector includes a sleeve having a passageway, and wherein said first end of said plunger extends through said passageway such that said first end of said plunger moves substantially rectilinearly in said passageway during said longitudinal movement of said plunger as said blade is moved between said retracted and extended positions.

7. (Original) A folding knife as defined in claim 1, wherein said pivotal connector is a sleeve having diametrically opposed pivot pins attached thereto, said pivot pins pivotally connecting said pivotal connector within said handle.

8. (Original) A folding knife as set forth in claim 1, wherein said second end of said plunger includes a clevis having a pin pivotally connected to said first end of said blade.

9. (Original) A folding knife as defined in claim 1, wherein said first end of said blade includes an arcuate slot and wherein said handle includes a pin carried in said arcuate slot, said arcuate slot having a first end and a second end, and said first end of said arcuate slot limiting said blade from movement beyond said extended position.

10. (Original) A knife as defined in claim 1, further comprising a coil spring encircling said plunger.

11. A folding knife, comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

a longitudinally extending plunger carried in said blade cavity and having a first end and a second end wherein said second end is opposite said first end;

a pivoting sleeve provided in said handle, said sleeve receiving and longitudinally slidably carrying said first end of said plunger for longitudinal movement of said plunger relative to said sleeve as said blade moves between said retracted and extended positions; and

said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

12. A folding knife, comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity; and

a spring biased plunger assembly configured to provide a spring force to assist to maintain the blade in the extended position while the blade is in the extended position, and a

spring force to assist to retain the blade in the retracted position while the blade is in the retracted position, the plunger assembly having:

a first end slidably and pivotably connected to said handle for longitudinal and/or pivotal movement of said plunger assembly relative to said handle as said blade moves between said retracted and extended positions; and

a second end opposite said first end, said second end of said plunger assembly pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

13. The knife as defined in claim 12, wherein said blade includes said first end of said blade having an extension projecting outwardly from said handle when said blade is in said retracted position; said extension defining an extreme edge portion with a plurality of ridges thereon for contact by a user when moving the blade from said retracted position to said extended position.

14. (Canceled)

15. A folding knife comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

a spring biased plunger assembly configured to provide a spring force to assist to maintain the blade in the extended position while the blade is in the extended position, and a spring force to assist to retain the blade in the retracted position while the blade is in the retracted position, the plunger assembly having:

a first end slidably and pivotably connected to said handle for longitudinal and/or pivotal movement of said plunger assembly relative to said handle as said blade moves between said retracted and extended positions; and

a second end opposite said first end, said second end of said plunger assembly pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions; and

a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into the path of movement of said plunger assembly for contacting said plunger.

16. A knife as defined in claim 12, further comprising said handle defining a first side and a second side opposite said first side and a belt clip connected to said handle adjacent one of said first and second sides of said handle.

17. A knife as defined in claim 12, wherein said second end of said plunger assembly includes a clevis having a pin pivotally connected to said first end of said blade.

18. A knife as defined in claim 12, wherein said first end of said blade includes an arcuate slot and wherein said handle includes a pin carried in said arcuate slot, said arcuate slot having a first end and a second end, and said first end of said arcuate slot limiting said blade from movement beyond said extended position.

19. A knife as defined in claim 12 wherein the plunger assembly comprises a plunger and a spring operatively interconnecting said plunger to said handle.

20. A knife as defined in claim 19, wherein the spring exerts a pivoting force upon the blade in response to the spring being deformed, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted

position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.

21. A knife as defined in claim 12 wherein the plunger assembly comprises a plunger and a coil spring operatively interconnecting said plunger to said handle.

22. A knife as defined in claim 21, wherein the coil spring encircles said plunger.

23.-44. (Canceled)

45. (Currently Amended) A knife comprising:
a handle;

a blade pivotally coupled to the handle to be moveable about a blade pivot point, such that the blade moves between a stowed position and a deployed position, the blade including a tang having a portion thereof projecting beyond the handle for engagement by a finger of a user when the blade is in the stowed position; and

~~a plunger coupled between the handle and the blade such that a portion of the plunger remains a fixed distance from the blade pivot point;~~

a spring assembly operatively coupled to the plunger between the handle and the blade to act on the blade ~~to urge the blade into the stowed position when the blade is moved to the stowed position, and operates on the blade to urge the blade toward the deployed position~~ when the blade is moved by an ~~outside~~ external force from the stowed position ~~at least partially toward the deployed position~~ at least past a transition position, the spring assembly positioned, relative to the tang of the blade, to apply a first force in a first direction that is offset from the blade pivot point to create a first moment about the rotation axis while the blade is positioned between the transition position and the deployed position, for biasing the blade towards the deployed position.

46-51. (Canceled)

52. (Currently Amended) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate about a rotation axis, relative to the handle, between a retracted position and an extended position;

biasing means a spring operatively coupled between the handle and the blade for holding the blade in the retracted position in the handle while the blade is in the retracted position and for biasing the blade toward the extended position relative to the handle when the blade is moved from the retracted position past a point of maximum bias transition position toward the extended position, the spring positioned, relative to the tang of the blade, to apply a first force in a first direction that is offset from the rotation axis when the blade is in the retracted position to create a moment about the rotation axis for holding the blade in the retracted position;
and

moving pressing means for moving a user to manually move the blade from the retracted position to a location past the extended transition position with one hand while holding the knife with the same one hand, the pressing means extending from the blade of the knife.

53. (Canceled)

54. (Currently Amended) The folding knife of claim 52 wherein the ~~moving~~ pressing means comprises at least one of a plurality of ridges formed on the tang of the blade, a plurality of directional saw-like teeth formed on the tang of the blade, ~~or~~ and a pin coupled to an upper portion of the blade.

55-57. (Canceled)

58. (Currently Amended) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate about a rotation axis, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin coupled to the blade and extending outward from the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the ~~blade~~ contact pin with a thumb or finger of the same hand; and

a biasing ~~element~~ assembly including a spring, the biasing assembly having a first end connected to the handle remote from the rotation axis and a second end proximate the rotation axis to act on the blade, the second end of the biasing assembly configured to apply an opening force to the blade to bias the blade toward the extended position after the blade is moved from the retracted position past a transition position between the retracted position and the extended position, the second end of the biasing assembly moving away from a back of the handle towards a front of the handle as the blade moves beyond the transition position towards the extended position and the opening force being applied at a location radially offset from the rotation axis and in a direction offset from the rotation axis to create a moment about the rotation axis;

~~a first coupling element operatively coupling a first end of the biasing element to the handle; and~~

~~a second coupling element operatively coupling a second end of the biasing element to the blade.~~

59. (Currently Amended) The folding knife of claim 58 wherein the biasing ~~element~~ assembly is arranged such that an applied outwardly directed force of the spring thereof increases in tension to a point of maximum tension force as the blade is moved through the arc from the retracted position toward the extended transition position, then decreases in tension force as the blade continues past the point of maximum tension force at the transition position toward the extended position.

60. (Currently Amended) The folding knife of claim 58 further including a plurality of ridges positioned on the tang of the blade.

61. (Canceled)

62. (Currently Amended) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate about a rotation axis, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the ~~blade~~-contact pin with a thumb or finger of the same one hand; and

a biasing ~~element assembly~~ including a spring, the biasing assembly operatively coupled to the handle and configured to apply a closing force to on the blade while the blade is in the retracted position and to act on the blade to bias the blade toward the extended position when the blade is moved from the retracted position past a transition position toward the extended position, the spring positioned, relative to the tang of the blade, to apply a first force in a first direction that is offset from the rotation axis when the blade is positioned between the transition position and the extended position to bias the blade towards the extended position.;

~~a first coupling element operatively coupling a first end of the biasing element to the handle; and~~

~~a second coupling element operatively coupling a second end of the biasing element to the blade.~~

63. (Currently Amended) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate about a rotation axis, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand; and

a biasing ~~element~~assembly including a spring, the biasing assembly coupled to and positioned within the handle to act on the blade and configured to resist rotation of the blade toward the extended position while the blade is in the retracted position and to bias the blade toward the extended position after the blade is manually moved from the retracted position past a transition position, the spring positioned, relative to the tang of the blade, to apply a force in a direction offset from the rotation axis to create a moment about the rotation axis to bias the blade away from the retracted position and towards the extended position when the blade is moved beyond the transition position towards the extended position.;

~~a first coupling element operatively coupling a first end of the biasing element to the handle; and~~

~~a second coupling element operatively coupling a second end of the biasing element to the blade.~~

64. (Canceled)

65. (Currently Amended) A folding knife, comprising:

a handle having a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; ~~said first end of said blade having an aperture;~~

a blade pivot connected to said first end of said handle ~~and extending through the aperture~~ for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein ~~the~~ a majority of the blade is within said blade cavity;

a plunger including a spring, the plunger pivotally connected to the blade at a first end, and ~~operatively coupled to~~connected to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate ~~point~~position between the extended position and the retracted position, ~~thereby causing the spring to~~ biasing the blade toward the extended position ~~assist opening of the blade~~ when the blade is ~~pivoted from~~positioned between the retracted position toward the extended position beyond and the intermediatepoint position, and biasing the blade toward the retracted position when the blade is positioned between the retracted position and the intermediate position, and the first end of the plunger moving away from a back of the handle towards a front of the handle when the blade approaches the intermediate position from the retracted position;

and

~~a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.~~

66. (Currently Amended) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate about a rotation axis, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, the contact pin extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the ~~blade~~contact pin with a thumb or finger of the same one hand; and

a ~~biasing element~~assembly including a spring operatively coupled between the handle and the blade, the biasing assembly configured to resist rotation of the blade toward the extended position while the blade is in the retracted position and to bias the blade towards the extended position when the blade is moved from the retracted position past a transition position

toward the extended position, the spring positioned, relative to the tang of the blade, so as to apply a first force in a first direction that is offset from the rotation axis when the blade is in the retracted position to create a moment about the rotation axis for holding the blade in the retracted position and to apply a second force in a second direction that is offset from the rotation axis to create a second moment about the rotation axis to bias the blade towards the extended position when the blade is moved beyond the transition position towards the extended position.;

~~a first coupling element operatively coupling a first end of the biasing element to the handle;~~

~~a second coupling element operatively coupling a second end of the biasing element to the blade; and~~

~~a locking member positioned in the handle and having a first position in which the blade may be freely moved between the retracted and extended positions and a second position in which the blade is locked in the extended position.~~

67. (New) The knife of claim 45 wherein the spring assembly is positioned, relative to the tang of the blade, to apply a second force in a second direction that, when the blade is in the stowed position, is offset from the rotation axis to create a second moment about the rotation axis for holding the blade in the stowed position.

68. (New) The folding knife of claim 52 wherein the transition position is located at an angular position of the blade at which the pressing means remains accessible to a thumb or a finger of the user while holding the knife in the same one hand.

69. (New) The folding knife of claim 52 wherein the spring is positioned, relative to the tang of the blade, to apply a second force in a second direction that is offset from the rotation axis to create a second moment about the rotation axis when the blade is moved beyond the transition position towards the extended position.

70. (New) The folding knife of claim 58 wherein the biasing assembly is further configured to resist movement of the blade away from the retracted position while the blade is in the retracted position.

71. (New) The folding knife of claim 58 wherein the transition position is located at an angular position of the blade at which the contact pin is accessible to a thumb or finger of the user while holding the knife in the same one hand.

72. (New) The folding knife of claim 62 wherein an end of the biasing assembly adjacent the tang of the blade is configured to move away from the back of the handle towards the front of the handle as the biasing assembly applies an opening bias to the blade.

73. (New) The folding knife of claim 66 wherein the transition position is located at an angular position of the blade at which the contact pin is accessible to a thumb or finger of the user while holding the knife in the same one hand.